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Scientists Take to the Florida Skies
To Find Everglades Mercury Source

A team of federal and state scientists, using a uniquely outfitted airplane, have begun a series of flights off the Florida coast that will allow researchers to identify the forms of mercury present in Florida skies that get deposited on land and water. Mercury is a major concern because it can accumulate in the aquatic food web and cause toxic effects to wildlife – especially fish-eating predators.

Scientists from the Florida Department of Environmental Protection (DEP), the U.S. Environmental Protection Agency's National Exposure Research Laboratory, and the National Ocean and Atmospheric Administration's Air Resources Laboratory will explain the research study at a press conference at 10 a.m. Tuesday, June 13, at the Fort Lauderdale Executive Airport, Banyon Air Service Hangar, 1575 West Commercial Blvd. NOAA's De Havilland DHC-6 Twin Otter aircraft and the instrumentation used to measure mercury will be available for viewing.

Modified by NOAA to carry research instruments, the Twin Otter offers a unique capability to explore atmospheric deposition of pollution. Using new measurement methods developed by EPA and the Florida DEP, the plane will help researchers identify forms of very low levels of mercury present in Florida skies as the agencies work to understand elevated mercury compounds found in the Everglades.

Mercury in several of Florida's freshwater fish species has been recognized by the state and EPA's Regional office in Atlanta as reaching some of the highest concentrations in the Southeast. The problem is the most critical in the Everglades, a

unique environment of grassy marshlands and tree islands that is home to a variety of plants and animals.

The Florida DEP, EPA, NOAA and several other state and federal agencies have worked for several years on a series of studies of mercury in the Everglades, including the waters, fish, wildlife and sediments. In 1998, EPA and the Florida DEP developed and validated a unique method of measuring very low levels of the water-soluble form of mercury in the atmosphere (between one and several thousand picograms per cubic meter of air). Although these concentrations are very low, this form of mercury deposits on land and water very efficiently, and the environmental repercussions are severe.

The study will advance the science to better identify and characterize where the mercury in the Florida air is coming from -- whether from distant sources, possibly from other continents or from the Caribbean islands or locally-generated incinerators and fossil fuel combustion sources. Studies by the EPA and state suggest that more than 90 percent of the mercury currently reaching the Everglades appears to come from the air – 60 percent by way of rain, plus about 30 percent by way of dry deposition (fallout from dust and gases).

The study began with a set of flights in January; a second set of flights will continue through June 30. Ten flights will be made at various altitudes about 100 miles east of Fort Lauderdale. In addition to various forms of mercury, scientists also will measure other pollutants, such as ozone, sulfur dioxide, carbon monoxide, nitrogen oxides, freons, trace elements and total particle concentrations.

The Broward County Division of Air Quality in Florida is making its laboratories available for the study and is providing other assistance.

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To learn more about NOAA's Air Resources laboratory, visit http://www.arl.noaa.gov/

To learn more about EPA's National Exposure Research Laboratory, visit http://www.epa.gov/nerl/

For more information about the Florida Department of Environmental Protection, visit http://www.dep.state.fl.us/

Information about the Florida mercury program also can be found at http://www.dep.state.fl.us/labs/hg/mercury.htm